

Audit Report

# Wildfire Preparedness

October 2019



The City of Austin established a division in the Fire Department to address the risk of wildfire. The City has taken steps to prepare for the threat of wildfire by following a national framework. However, the City can do more to reduce the threat of wildfire for Austin and the region. For example, the City can improve collection of wildfire mitigation data to more accurately reflect current efforts and adopt a code to make new houses less likely to burn during a wildfire. Also, City departments can improve land management practices meant to reduce wildfire risk.

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Cover: Photo of prescribed burn courtesy of Austin Fire Department.

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## Objective

Is the City of Austin effectively working to prevent wildfires and adequately prepared to respond to wildfires?

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## Background

### Wildfire is a Risk to Austin and the Region

Wildfire is one of several potential natural disasters that threaten Austin and the region. The risk of wildfire is not uniformly addressed in various City plans and external reports. However, the risk is generally expressed in terms of the potential, probability, or impact of a wildfire event.

For potential, City plans and reports were consistent in identifying wildfire as a major risk area and threat to the Austin area. This was especially true in areas where wildlands and housing intersect. For example, the City of Austin Emergency Operations Plan identified wildfire as a year-round risk and ranked it as one of three high risk threats, along with flooding and hail. In 2016, the City's Hazard Mitigation Plan noted that potential impacts from a wildfire can be substantial. Also, a 2019 CoreLogic report<sup>1</sup> looked at the number of residential properties at risk of wildfire damage in the thirteen states most affected by wildfires. Austin ranked fifth among the top fifteen metropolitan areas based on the cost of reconstructing those homes.

For probability, the City's Hazard Mitigation Plan identified 305 Austin wildfire events in a ten-year period. It noted that an event within the city is highly likely and probable within a year. That plan noted two significant past events, both in 2011. We also looked at reported wildfire data by state for the last five years. In Texas, the number of acres burned increased in every year but one. Further, the average number of acres burned over the last two years was four times higher as compared with the average of the first two years. Also, other plans suggest the probability of wildfire events increases as more housing extends to wildland areas.

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<sup>1</sup> CoreLogic is a California-based company that provides property information based on data and analytics. Their 2019 Wildfire Risk Report "provides insights into single-family and multifamily residential properties at risk of damage from wildfires in the United States."

For impact, the City’s Hazard Mitigation Plan determined that a wildfire could cause injuries, shut down critical area facilities for more than a week, and destroy or damage more than ten percent of properties in Austin. In May of 2016, City Council established a goal of zero wildland fire-related fatalities. They also outlined a series of steps to reach that goal (see Appendix A for more details).

**National Best Practice and the City’s Approach**

The National Wildfire Coordinating Group has established a best practices framework with three primary elements necessary to reduce the destructive impacts of wildfire, including:

1. Restoring and maintaining resilient landscapes,
2. Creating fire-adapted communities, and
3. Responding to wildfires.

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Proactive efforts include firefighter training, public outreach and education, and partnering with other departments on land management activities.

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There are many City departments involved in wildfire issues. The Austin Fire Department’s (AFD) Wildfire Division is the primary resource addressing these issues. In 2012, the City created this group following the 2011 Labor Day fires in the Austin region. The Wildfire Division works to identify wildfire risk. It also works to proactively reduce this risk. The Wildfire Division includes both civilian staff and firefighters and works with many departments across the City (see Exhibit 1).

**Exhibit 1: The AFD Wildfire Division Works with Many City Departments to Address Wildfire Issues**

City Department	Cooperative Activities with AFD
Austin Energy	Green building, 311, Right-of-Way
Austin Police Department	Evacuation
Austin Resource Recovery	Bulk brush pick-up, project support
Austin Water	Wildland management, water capacity
Austin Watershed	Vegetation management, post-fire recovery
Code Compliance	Enforcement
Office of Sustainability	Climate adaptation, resiliency planning
Parks and Recreation	Park operations, Park Rangers enforcement
Planning and Zoning & Development Services Department	Land use planning, subdivision design
Public Works	Evacuation planning, engineering

SOURCE: OCA analysis of information provided by the Austin Fire Department, July 2019.

AFD worked with consultants to create two guiding plans that outline steps to address wildfire issues moving forward. The first is the Community Wildfire Protection Plan (CWPP) issued in 2014. The second is the Community Planning Assistance for Wildfire: Recommendations for Austin, TX (CPAW) issued in 2016. The CWPP mirrors the national best practices framework as a solution for Austin (see Appendix B for more details).

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Prescribed burns are the systematic, planned application of burning to meet specific objectives, one of which may be reducing wildfire risk.

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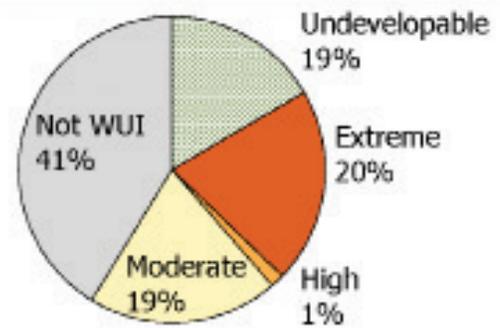
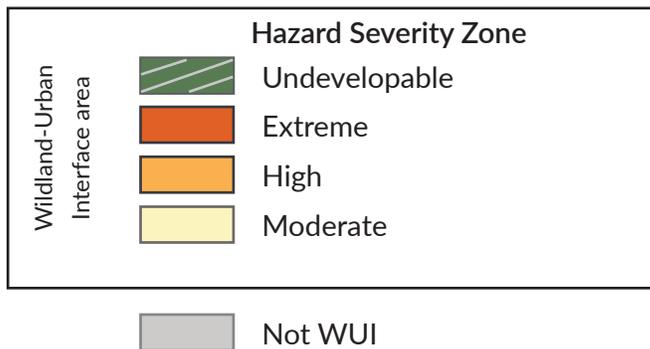
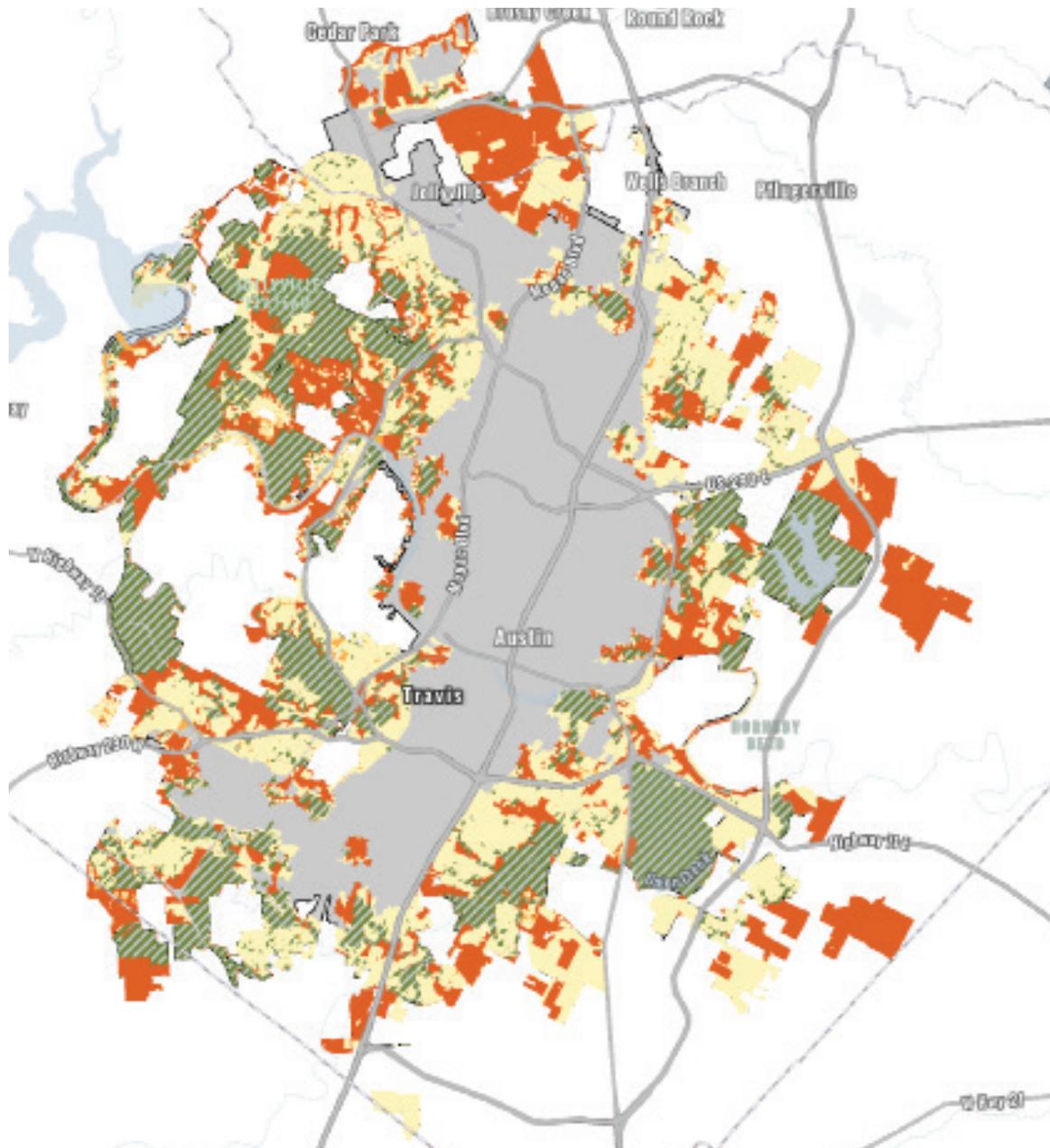
These plans note that managing landscapes is a key step in reducing wildfire risk. This can be done by reducing or removing materials that can fuel wildfires. For example, excess brush is a fuel and can be removed in a few different ways. Removal by hand or machine takes time and a lot of effort. Another way is using planned burns called prescribed burns. In the City, Austin Water and the Parks and Recreation Department are the two City departments that manage the most land. Also, Austin Energy manages excess brush and growth around its power lines and other infrastructure.

Another way to reduce wildfire risk is to require construction that is resistant to fire in vulnerable areas. One of these areas is the Wildland-Urban Interface, also called the WUI (see Exhibit 2). This is where humans share a boundary with wildland areas such as parks, preserves, and ranches. According to a 2018 study,<sup>2</sup> the WUI is “where wildfire problems are most pronounced.” This study also noted one of the fastest growing areas for new home development is in areas identified as WUI.

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<sup>2</sup> “Rapid Growth of the US Wildland-Urban Interface Raises Wildfire Risk” published in the Proceedings of the National Academy of Sciences of the United States of America.

**Exhibit 2: The Austin Fire Department Identified the Wildland-Urban Interface Area in Austin and Classified it by Hazard Severity Zone**



SOURCE: OCA analysis of Austin Fire Department map of Wildland-Urban Interface interface area with hazard severity zone levels, October 2019.

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# What We Found

## Summary

The City of Austin established a division in the Fire Department to address the risk of wildfire. The City has taken steps to prepare for the threat of wildfire by following a national framework. However, the City can do more to reduce the threat of wildfire for Austin and the region. For example, the City can improve collection of wildfire mitigation data to more accurately reflect current efforts and adopt a code to make new houses less likely to burn during a wildfire. Also, City departments can improve land management practices meant to reduce wildfire risk.

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## Finding 1

The City has taken steps toward addressing the destructive impacts of wildfire through efforts that align with the National Cohesive Wildland Fire Management Strategy, but needs to improve collection of wildfire mitigation data to more accurately reflect current efforts.

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Austin Water is involved in managing the Balcones Canyonlands Preserve as well as Water Quality Protection Lands.

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Austin's wildfire plans align with the three elements outlined in a national framework (see Appendix C for more detail on each element). The Wildfire Division and other City departments have taken actions that align with this framework. Taken together, these actions help improve the City's level of preparedness for the threat of wildfire in Austin and the region. However, unless all City wildfire mitigation efforts are identified, tracked, and updated, management and stakeholders will not have a clear picture of the threat the City can directly address and how much of that threat is being addressed.

### National Cohesive Strategy Element 1:

#### Restoring and Maintaining Landscapes

*Ensure landscapes across all jurisdictions are resilient to fire-related disturbances and wildland management programs engage in wildfire risk reduction.*

### Reducing Wildfire Risk on Public Land

The Austin Fire Department's (AFD) Wildfire Division works to manage land and remove brush on public property in Austin. Austin Water also has responsibilities to restore and maintain landscapes on the property it manages. Austin Water has staff dedicated to land management planning. Austin Water properties have incorporated fire history in plans that also include the level of wildfire risk, areas for fuel reduction, and strategies to manage the land. A strategy used by both AFD and Austin Water is the creation of shaded fuel breaks. This involves the removal of certain types of vegetation, which, in turn, should slow or stop the spread of a wildfire on the ground (see Exhibit 3). Both departments reported focusing their mitigation efforts mostly along the Wildland-Urban Interface (WUI).

**Exhibit 3: A Shaded Fuel Break Involves Clearing Ground Brush and Low-Level Limbs**  
**Untreated** **Treated with Shaded Fuel Break**

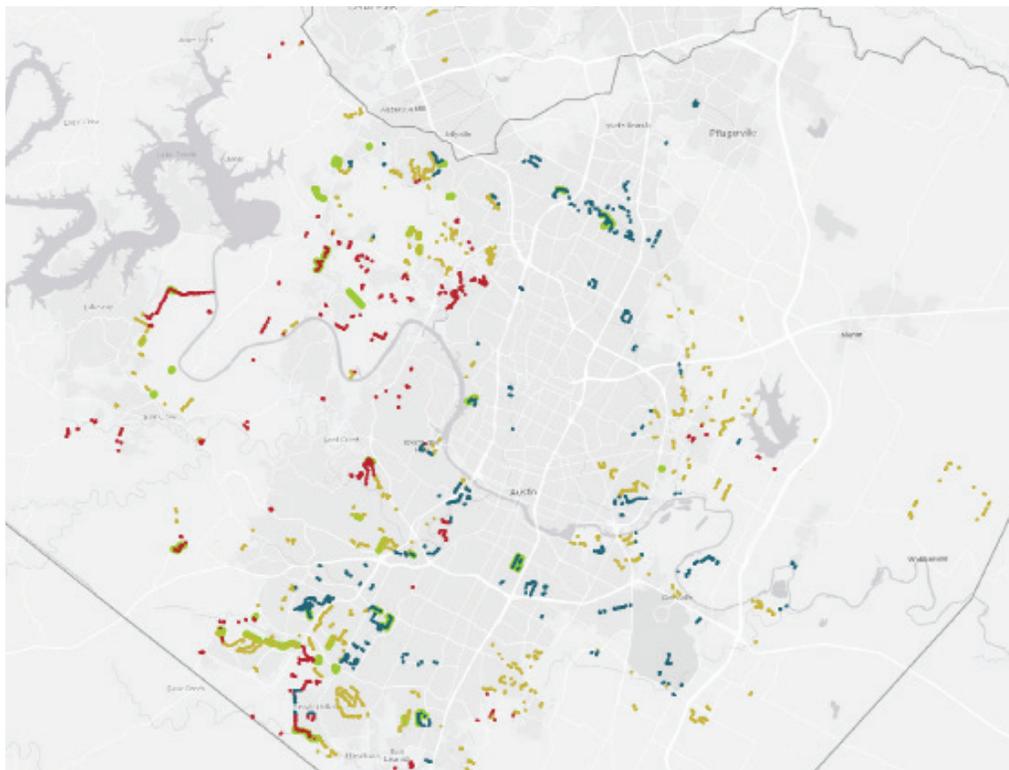


SOURCE: OCA photographs of untreated and treated land at Reicher Ranch, March 2019.

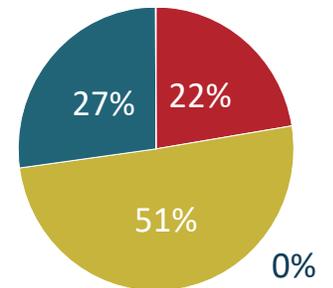
AFD classifies wildfire risk areas in four categories: high, elevated, moderate, and low.

AFD identified approximately 647 miles of WUI land at risk around Austin. Private land accounts for 72% of that total. The remaining 28%, or 182 miles, is on public land. However, AFD noted only 98 miles of the public land can be treated by the City to mitigate wildfire risk based on several factors including location, slope, and environmental features. We analyzed AFD's data and obtained results consistent with these figures. Also, we noted most of the land in the potential treatment zone is located in high or elevated risk areas (see Exhibit 4).

**Exhibit 4: Potential Treatment Zone of the Wildland-Urban Interface is Mostly in High and Elevated Risk Areas**



Potential Treatment Zone Breakdown by Risk Class



WUI Boundary by Risk Class

- High
- Elevated
- Moderate
- Low
- Treated by AFD or Austin Water

SOURCE: OCA analysis of information reported by the Austin Fire Department and Austin Water, August 2019.

AFD appears to take a risk-based approach to reduce wildfire fuels. In August 2019, AFD reported their fuel reduction crews had treated approximately 11 miles, or 11%, of public land in the potential treatment zone. Our analysis verified that 79% of these treatments were in areas of high and elevated risk. The remaining 21% was in moderate risk areas and none were in the lowest risk areas. However, we identified three issues with the reported data. These issues include the level of detail and the extent of Citywide wildfire mitigation efforts that AFD gathers and tracks.

### Issues Noted with AFD Wildfire Mitigation Data Collection

First, AFD does not document the results of their work in sufficient detail to track and update progress. AFD reported that fuel crews inspected an additional three miles in the potential treatment zone. AFD staff noted there are three possible outcomes of these inspections. The crews would:

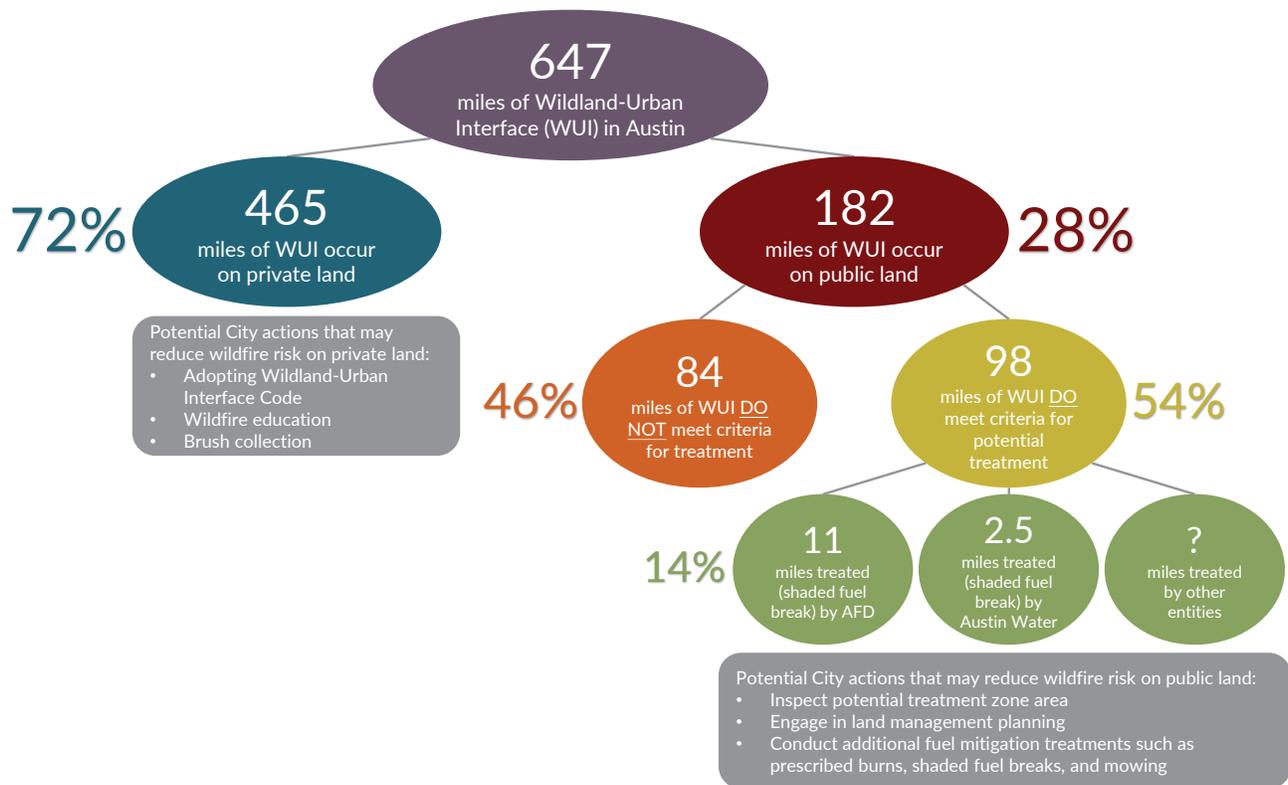
1. verify the land meets treatment criteria and needs to be treated;
2. verify the land meets treatment criteria, but does not currently need additional treatment; or
3. determine that the land does not meet treatment criteria and cannot be treated.

AFD staff also reported the department does not record and track the results of these inspections according to the outcome categories noted above. Information is needed at that level of detail to accurately track and update figures that show how much work is possible, how much is done, and how much is left to do. For example, when treated, land identified in outcome 1 would be added to the treated total. Likewise, land identified in outcome 2 would be added to the treated total. Land identified in outcome 3 would be subtracted from the potential treatment total (currently identified as 98 miles).

Second, AFD does not include wildfire mitigation work done by other City departments in their reported progress. We analyzed fuel mitigation treatments reported by AFD and Austin Water and noted that AFD is only tracking work done by AFD crews. Our analysis shows that Austin Water crews reported treating approximately 2.5 miles of public land not tracked or reported by AFD. Adding this to AFD's reported treatment figures results in almost 13.5 miles of treated land, or just under 14% of potentially treatable public land. Additionally, Austin Water reported recurrent mowing treatments on some of their managed land. Adding this land to the treated total results in just over 19 miles of treated land, or approximately 19.5% of potentially treatable public land. It is also possible that other departments are conducting wildfire mitigation work that should be tracked, but we limited our analysis to data that was readily available (see Exhibit 5).

Third, AFD is not tracking data for other wildfire fuel mitigation strategies. One of these strategies is prescribed burns which help address a number of land management goals, including wildfire risk. We noted that AFD, Austin Water, and the Parks and Recreation department reported using prescribed burns. However, information from these burns is not being tracked, as noted in Finding 2.

## Exhibit 5: Extent of Austin's Wildland-Urban Interface Areas and City Mitigation Efforts



SOURCE: Summary of wildfire information provided by AFD, Austin Water, Parks and Recreation, and Austin Resource Recovery, October 2019.

### National Cohesive Strategy Element 2:

#### Creating Fire-Adapted Communities

*Fire-adapted communities are where human populations and infrastructure can withstand a wildfire without loss of life and property and where ignitions caused by humans are reduced.*

The City engages in several activities that support the creation of fire-adapted communities. For example, the Wildfire Division developed wildfire risk information for Austin. This information is available on their website. The website includes many ways to view wildfire risk, from a high-level overview down to the risk for individual properties and homes. Staff also uses a wildfire simulation table that show the impacts of historic wildfire events and potential wildfire scenarios in Austin. Also, staff have made efforts to draft a code for Council consideration that would apply to new construction and remodels in WUI areas.

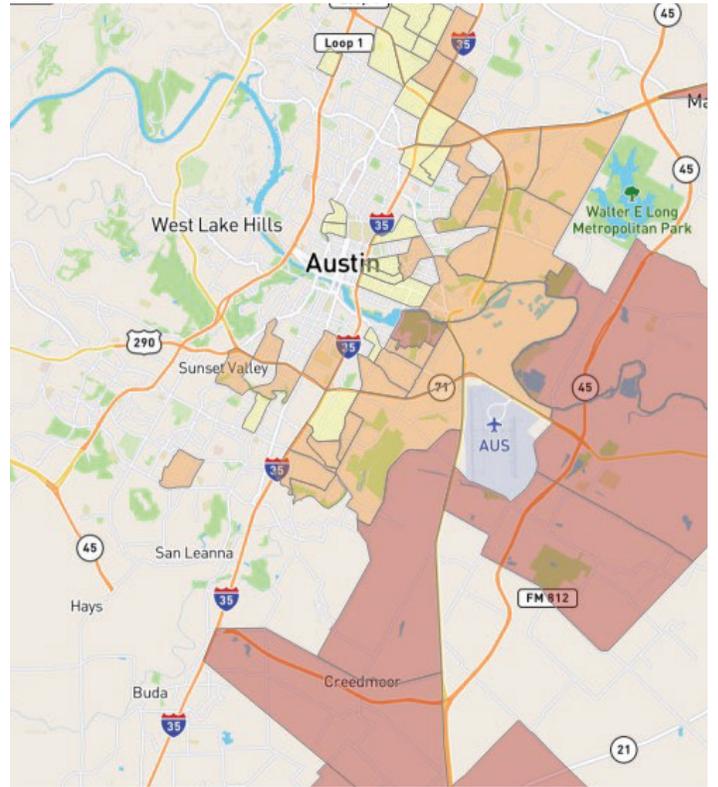
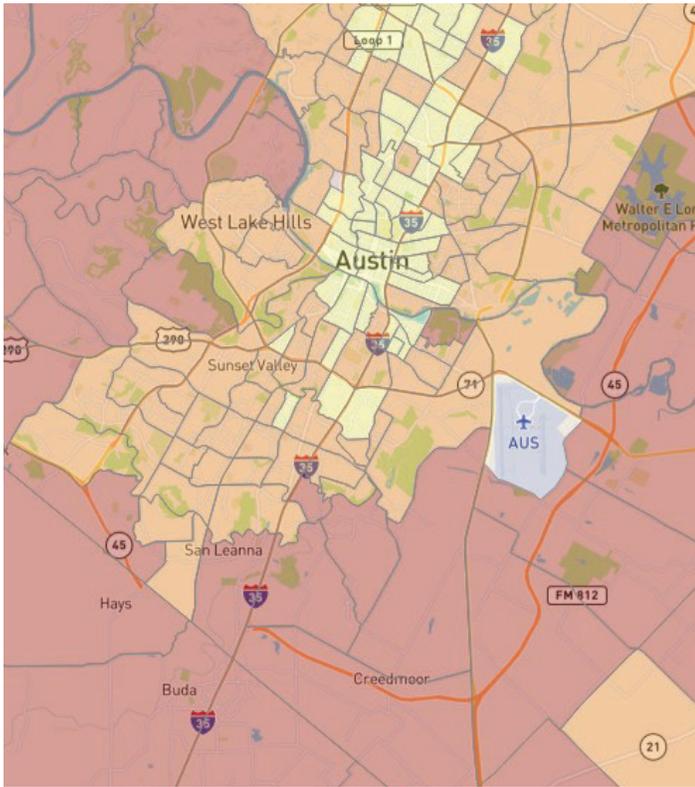
Austin Water staff work to educate and protect residents and property owners near preserves and other lands they manage. Also, Austin Energy staff said it is increasing the area cleared when trimming trees near power lines. Staff cited wildfire risk as one reason for the change.

Another tool AFD makes available to the public is the Vulnerable Populations Viewer. This tool allows users to view wildfire risk information through different lenses. For example, it can identify areas where individuals or families may experience challenges due to factors such as language, mobility, or resources. The results show where populations may have a difficult time preparing for or responding to wildfires. These areas may require extra planning and response efforts (see Exhibit 6).

**Exhibit 6: The Vulnerable Populations Viewer Shows General Wildfire Risk Areas (left) and Areas Where Specific Planning and Response Efforts May be Needed (right)**

Wildfire Risk Map  
(Overall Risk)

Wildfire Risk Specific to Areas Where There is a  
Higher than Average Number of Families in Poverty

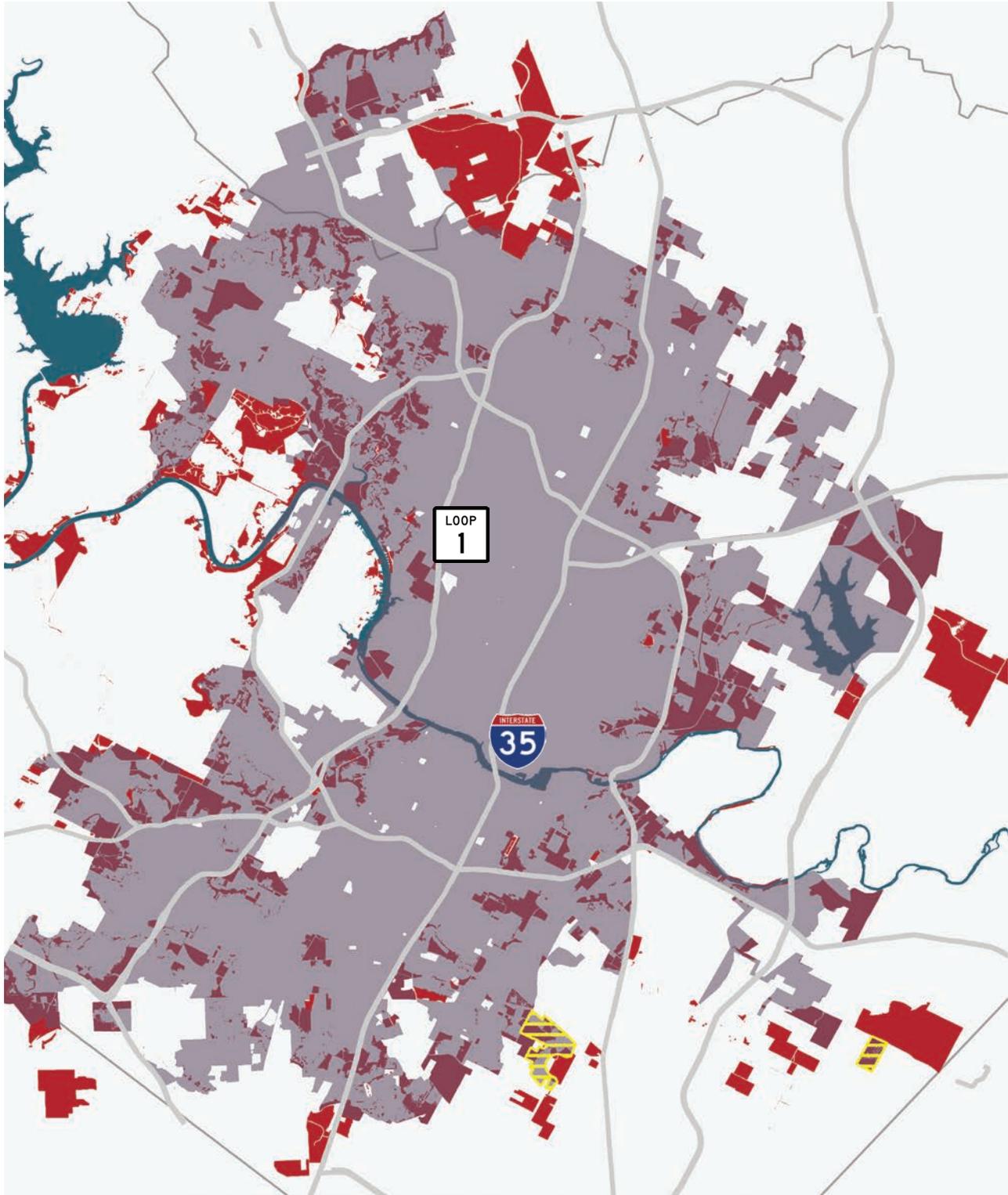


SOURCE: Examples of Headwater Economics Austin Wildfire and Vulnerable Populations Tool, July 2019.

The City supports several other programs related to fire-adapted communities. For example, there are several Firewise communities in the Austin area. These communities help educate residents about risk areas related to wildfire. Activities include assessing homes for wildfire risk and community work days to reduce brush. Also, “Ready, Set, Go” is a program that educates individuals and families about how to prepare for an evacuation. In addition, the City participates in Warn Central Texas which allows users to sign up to receive emergency notifications.

Residents can also play an active role in reducing Austin’s wildfire risk by clearing excess brush on their property. As noted previously, AFD reports 72% of the WUI is on privately owned land. The City helps residents by providing brush collection services. Austin Resource Recovery (ARR) provides brush service to non-commercial customers within Austin’s full-service area two times per year (see Exhibit 7). In addition, ARR will provide additional curbside brush pick ups based on customer request for a fee (currently \$100). ARR customers can also drop off brush at the Austin Recycle and Reuse Drop-Off Center for free. Non-customers, including residents outside Austin, can drop off brush at this facility for a fee (currently \$7.00 per yard).

**Exhibit 7: Brush Collection Service Area Provided by Austin Resource Recovery (ARR)  
Compared with Wildland-Urban Interface Extreme Severity Zones**



**Map Legend**

- ARR Brush Service Area
- ARR Brush Service Area Outside Full-Service City Limits
- Extreme WUI Hazard Severity Level Outside ARR Brush Service Area
- Extreme WUI Hazard Severity Level Inside ARR Brush Service Area

SOURCE: OCA analysis of information provided by Austin Resource Recovery and Austin Fire Department, August 2019.

### National Cohesive Strategy Element 3:

#### Responding to Wildfires

*All jurisdictions should participate in making and implementing safe, effective, efficient, and risk-based fire management decisions.*

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AFD firefighters were deployed to California to help during the 2018 wildfires and gained experience with ground response and incident command management.

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AFD officials noted their firefighters have a basic level of certification related to wildfire. A number of firefighters are pursuing a higher-level certification related to wildfires. Also, several members of City staff said that firefighter participation on prescribed burns serves as an excellent training opportunity. Staff noted that wildfire behaves differently than a structure fire. Working on a prescribed burn allows firefighters to experience and observe wildfire behavior in a controlled setting. Our audit work focused on firefighter preparation for responding to a wildfire and did not look at their response to a particular event. We noted that some Austin firefighters have directly experienced wildfire through deployments to help with active events in other states. AFD staff reported these deployments help firefighters gain new skills that they bring back to Austin.

Also, AFD staff worked with the Office of Homeland Security and Emergency Management to develop a special evacuation plan for wildfire. This plan outlines the nature of the wildfire threat for Austin. It also lists the activities and responsibilities of agencies involved in the evacuation of residents in the WUI.

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## Finding 2

Opportunities exist to improve proactive efforts to reduce wildfire threats to Austin and the region. These include adopting a Wildland-Urban Interface code, drafting land management plans for at-risk City properties, and defining consistent guidance for the prescribed burn permitting process.

### Austin's Wildland-Urban Interface (WUI) Code

One City plan and a 2016 Council resolution asked City staff to develop a WUI code for Austin. This would help address wildfire risk in 72% of the WUI that is privately owned land. In response, AFD Wildfire Division staff has been working on drafting a WUI code for Council consideration. As of October 2019, the draft version of the WUI code contains requirements for building materials to be more resistant to fire, but requirements related to vegetation around structures have changed.

The draft WUI code requirements are based on a national model code with local amendments. Wildfire Division staff said the adoption of a WUI code would not address wildfire risk to existing homes and buildings. However, it would mark a point in time when structures built in the WUI would be more resilient to fire and reduce wildfire risk factors. As shown previously in Exhibit 2, AFD's September 2019 estimate places about 59% of Austin within the WUI. Most of these areas are outside of Austin's urban core. Additionally, the Neighborhood Housing and Community Development Department (NHCD) estimated a large part of new home construction will be within the WUI.

#### Consideration of the WUI Code Involves Competing Concerns about Safety and Housing Affordability

As part of the drafting process, AFD worked with NHCD to prepare an affordability impact statement. Based on an early version of the WUI code,

the initial NHCD statement estimated the code would have “significant” affordability impacts on housing construction costs. AFD also engaged with stakeholders to discuss the code and its impacts. A local home builders association completed their own assessment of the draft code and also found a high cost impact.<sup>3</sup>

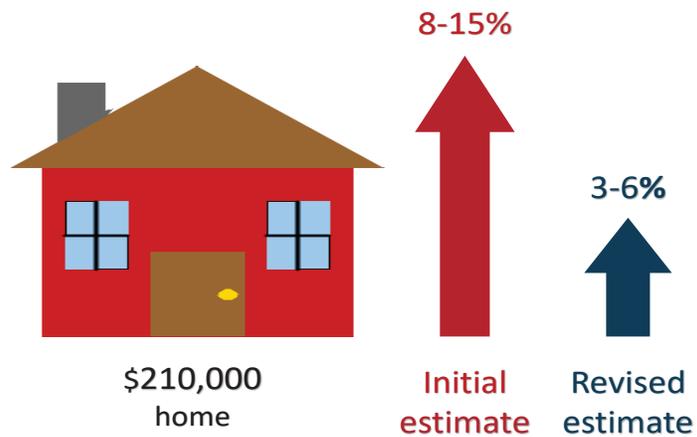
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The WUI code would apply to new construction and significant remodel projects.

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To address these impacts, AFD staff removed some model WUI code requirements from the Austin draft. Staff noted these requirements already existed in other City codes. Also, AFD reported changing other elements of the Austin draft to simplify building material requirements. Based on an updated version of Austin’s draft WUI code, NHCD issued a revised statement estimating a smaller increase in construction costs<sup>4</sup> (see Exhibit 8). An updated estimate from the home builders association also showed a decrease in the cost impact.

**Exhibit 8: Adjustments to Austin’s Draft WUI Code Lowered the Impact of Estimated Housing Construction Cost Increases**



SOURCE: OCA analysis of NHCD Affordability Impact Statements, July 2019.

From a safety perspective, changes to other City codes may result in gaps in Austin’s WUI code. For example, the City is currently updating its land development code (LDC). Through the process noted above, Austin’s draft WUI code may have removed an element of the model WUI code because it is already required in Austin’s LDC. However, if that element is removed in the LDC, it will not be covered by the WUI code. This could reduce the effectiveness of the WUI code and impact safety for residents.

Also, AFD estimates the draft WUI Code will cost approximately \$1.5 million to implement and over \$1 million per year for staff to review and inspect permit plans. AFD’s current labor agreement requires these positions to be filled by firefighters or engineers. Some or all of these expenses could be offset through permitting fees. However, these fees would likely further increase the cost of construction. In May 2019, AFD presented the draft WUI code to the Public Safety Commission who voted to unanimously recommend it for adoption. AFD staff indicated they plan to present the code for Council consideration after approval from the Fire and Building Code Board of Appeals.

<sup>3</sup> An additional estimate based on the model WUI code was provided by an independent research group that stated wildfire-resistant housing “can be constructed for roughly the same cost as a typical home.”

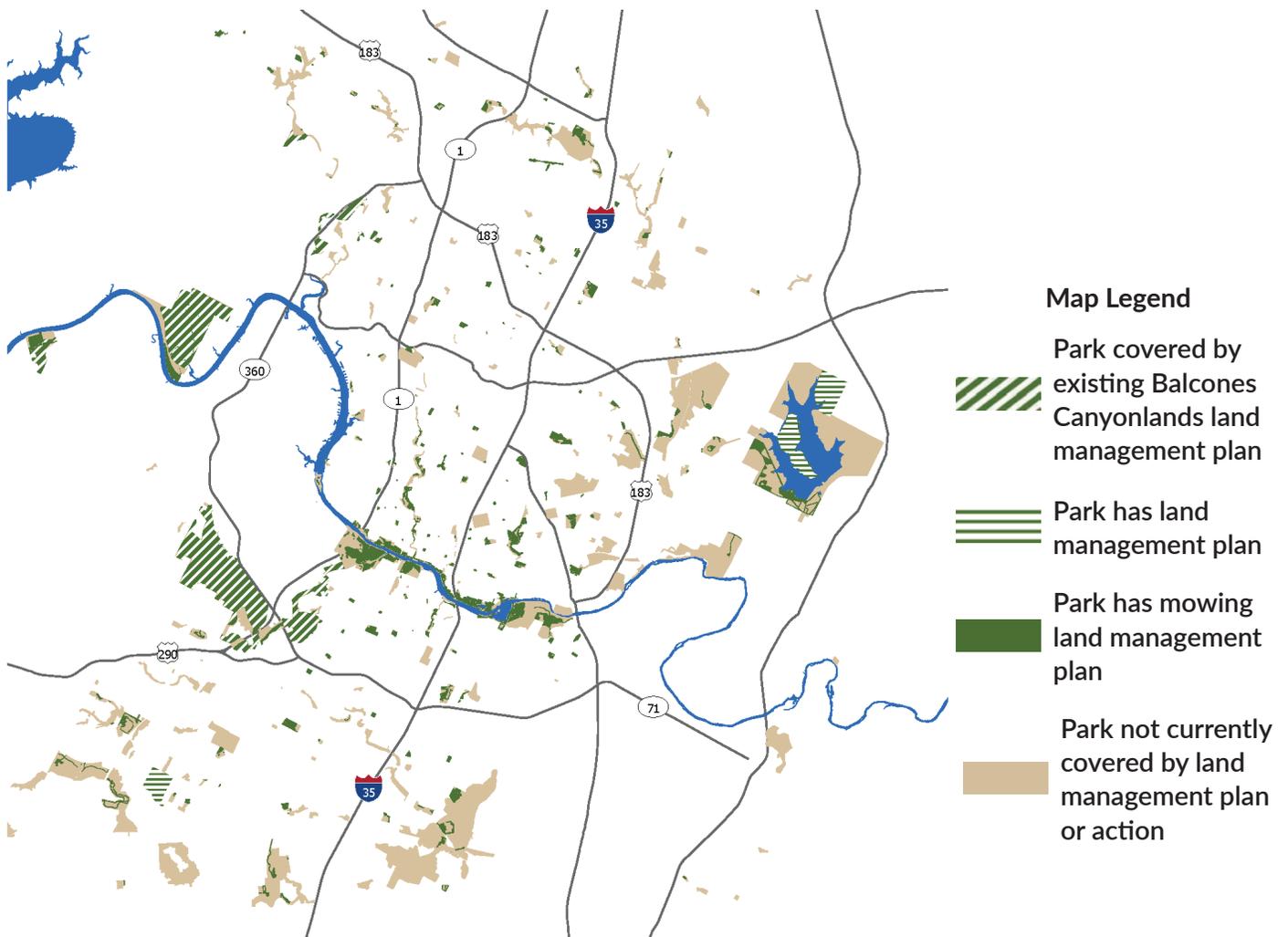
<sup>4</sup> The revised NHCD statement also noted there could be a “significant” cost impact for a small number of homes.

## Land Management Planning

As noted in Finding 1, the City owns and manages a large amount of land. The two City departments with the most high-risk land are Austin Water and the Parks and Recreation Department (PARC). In total, Austin Water manages over 27,000 acres which is slightly more than half of City land. Austin Water has a dedicated division for this purpose with 22 full-time staff. This division has established land management plans to guide their work.

PARC manages more than 15,000 acres which is about 29% of City land. PARC has limited staff dedicated to land management planning and wildfire efforts. Some of PARC's properties have a land management plan with elements addressing wildfire risk. However, PARC reported not having land management plans for several properties. Some of these were in high-risk areas (see Exhibit 9). Since some properties do not have a plan, PARC may not be strategically addressing wildfire risk on their properties. However, PARC Staff reported working with AFD's Wildfire Division for help in planning and conducting work on their properties to help reduce fire fuels.

**Exhibit 9: Not All Parks and Recreation Properties Have a Land Management Plan**



SOURCE: Parks and Recreation Department map showing location and land management plan status of their managed properties, October 2019.

## Prescribed Burn Permitting

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The Fire Marshal has authority to approve and issue prescribed burn permits.

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As noted in Finding 1, prescribed burning is a method to proactively address wildfire risk. This method is noted as cost-effective in reducing brush. It is also used as a training experience for firefighters. AFD's Wildfire Division is responsible for reviewing permits for prescribed burns throughout the City and on City-owned properties. However, this process is not well defined and there are no clear policies and procedures to guide the process.<sup>5</sup> Also, details about prescribed burns across the City are not well tracked. We could not determine the number of acres planned to burn or the number of acres actually burned.

In 2017, fire from a prescribed burn conducted by Austin Water escaped its boundary on a Water Quality Management property. Following that, Austin Water did not conduct any burns on their properties. As a result, prescribed burning was generally not available as a land management or wildfire reduction tool. This limitation prevented them from meeting their land management goals. The result is more fuel for fires and a potential increase in wildfire risk on some properties. AFD reported that they have recently issued a permit to allow Austin Water to conduct a prescribed burn.

AFD appears to have conducted some prescribed burns on PARD properties since 2017, but these were small acreage burns. PARD staff noted that they would like to use larger-scale prescribed burns on more properties.

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<sup>5</sup> Near the end of our audit process, AFD provided draft versions of an outline of the prescribed burn process and a guidebook on incident command for prescribed burns.

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# Recommendations and Management Response

1

To address data gathering and tracking issues noted in finding 1, the Fire Chief should ensure that Wildfire Division staff receives and reports complete and accurate information about wildfire risk mitigation efforts, including fuel treatments, conducted in the City. This information should be updated and reported publicly at regular intervals. At a minimum, the Fire Chief should:

- a. engage with other entities conducting mitigation efforts in the City to ensure that all efforts are identified, tracked in a consistent format, and provided to the Austin Fire Department;
- b. ensure that field information gathered by staff includes enough detail to accurately document how much land requires treatment, does not require treatment, or cannot be treated; and
- c. report to City management and Council any impediments that prevent this information from being received and reported.

**Management Response:** Agree.

**Proposed Implementation Plan:**

AFD will work with other City entities to:

- 1.a. gather comprehensive data on mitigation efforts;
- 1.b. include detailed data elements with regard to the treatment status of the 647 square miles of Wildland-Urban Interface in Austin; and
- 1.c. submit an annual report to City management and Council that includes information on impediments to collecting information.

**Proposed Implementation Date:**

Ongoing activity with annual reports submitted in January (based on data from the previous fiscal year).

## 2

To address Wildland-Urban Interface (WUI) code issues in finding 2, the Fire Chief should ensure that:

- a. all cost impacts related to WUI code requirements are identified and clearly communicated to City management and Council during the code adoption process and
- b. key elements<sup>6</sup> of a WUI code are represented in Austin's WUI code or remain in place as part of another City code.

Management Response: Agree.

Proposed Implementation Plan:

### 2.a. Cost Impacts

Sept-Oct 2019: AFD will continue stakeholder meetings regarding the WUI code and will develop construction costs associated with "key elements" of the WUI code.

Nov 2019: AFD and the Budget Office will start a review of staffing and operation costs associated with WUI Code Essential Elements and begin to develop fees and other funding source options.

Dec 2019 into 2020: AFD and the Budget Office will develop cost options in a menu linked to the WUI code essential elements list. AFD will distribute the options and explain the impact on WUI code adoption in a memo to Mayor and Council.

### 2.b. Maintaining Key Elements of the WUI Code

Oct 2019: AFD will finalize a draft of the WUI code that is broken into a list of key elements. Elements of the WUI code will be designated as "critical", "essential", or "recommended".

Nov 2019: AFD will review the draft of the Land Development Code (LDC) and be certain that "critical" and "essential" elements of Wildfire Prevention are included in the LDC or the WUI code subsection.

Dec 2019 into 2020: AFD will track discussion of the LDC, watching that all the "critical" elements, and the majority of the "essential" elements of the WUI code are included. If "critical" or "essential" elements of the code are overlooked or purposely omitted, AFD will notify the City Manager and Mayor and Council of the problem prior to final adoption of the LDC.

Post LDC Adoption: AFD will produce a final "after action" report listing any key elements of the WUI Code that were not adopted and why.

Proposed Implementation Date: March 2020

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<sup>6</sup> When reporting on key elements of the proposed Austin WUI code, AFD plans to begin with the national model code as it applies to Austin, identify any changes from that code, the reasons for those changes, and notify the City Manager and Mayor and Council before the code is adopted.

# 3

To address land management issues in finding 2, the Director of the Parks and Recreation Department should ensure that land management plans:

- a. are drafted for Parks and Recreation properties, with a priority on high-risk properties;
- b. address wildfire risk areas; and
- c. are implemented to reduce the threat of wildfire.

**Management Response:** Agree.

**Proposed Implementation Plan:**

- a. The Parks and Recreation Department (PARD) will establish a land management team. Currently PARD does not have any FTEs dedicated to land management. This is a critical need and PARD will collaborate with partners to identify creative alternatives to fund the land management program, including FTEs. The land management team in collaboration with the Austin Fire Department (AFD) will review parkland for wildfire risk and will create land management plans prioritizing the identified high-risk properties.

PARD will incorporate annual reviews of parkland for wildfire risk with AFD, and regular updates of land management plans into the Department's standard operating procedures.

- b. PARD will use the land management plans as a road map for on-the-ground implementation of strategies to reduce wildfire risk. It is expected that the implementation of on-going wildfire reduction work will require regular annual funding of approximately \$100,000. PARD will collaborate with other Departments and, where possible, will partner with park advocates to implement the land management plans.

**Proposed Implementation Date:**

- a. May 2021 (subject to funding availability)
- b. September 2022 and on-going (subject to funding availability)

# 4

To address prescribed burn permitting issues in Finding 2, the Fire Chief should ensure the Austin Fire Department:

- a. creates defined policies and procedures for the Austin Fire Department's prescribed burn permitting process that ensure safety and align with industry guidance;
- b. considers and issues prescribed burn permits according to these policies so that a cost-effective land management tool is available to help reduce the risk and severity of wildfires; and
- c. creates guidance related to the prescribed burn permitting process and makes this guidance available to its partner organizations and stakeholders.

Management Response: Agree.

Proposed Implementation Plan:

#### 4.a. AFD Prescribed Burn Permitting Policy

Nov 2019: The Wildfire Division's "burn boss", Wildfire Battalion Chief, and AFD Fire Marshal's Office will gather current procedures and past documentation from prescribed burns. An AFD administrative staff member with skills in technical writing will assist with the drafting of a Prescribed Burn Permitting Policy.

Jan 2020: The draft Prescribed Burn Permitting Policy will be submitted to the AFD Policy Review Committee and Executive Committee for adoption.

#### 4.b. Track Prescribed Burn Permitting and Develop Outreach Tool

Oct-Dec 2019: The Wildfire Division will revise the Standard Operating Guidelines (SOGs) for their personnel. The revised SOGs will have a section on how prescribed burns are tracked.

Feb 2020: A "Prescribed Burns as a City Land Management Tool" document will be drafted for use by other City departments. Technical writing and graphics assistance will be provided from other areas of AFD.

#### 4.c. Distribute Outreach Tool

Mar-May 2020: "Prescribed Burns as a City Land Management Tool" will be published and distributed through the FIRE MARSHAL's Office. AFD cannot guarantee that other City department and outside stakeholders will adopt the described procedures, but the document will be of sufficient quality to be considered a public Wildfire resource.

Proposed Implementation Date: May 2020



## MEMORANDUM

**TO:** Office of the City Auditor

**FROM:** Liana Kallivoka, PhD, PE, Interim Director  
Austin Parks and Recreation Department

**DATE:** August 12, 2019

**SUBJECT:** **Wildfire Preparedness Audit**

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The Parks and Recreation Department (PAR) has reviewed the Wildfire Preparedness Audit Report prepared by the Office of the City Auditor. PAR agrees with the recommendations in Finding 2 associated with addressing land management issues, including that the Director of the Parks and Recreation Department should ensure that land management plans:

- are drafted for Parks and Recreation properties, with a priority on high-risk properties;
- address wildfire risk areas; and
- are implemented to reduce the threat of wildfire.

PAR has developed the attached action plan to implement the recommendations.

Should you have any questions, please contact me directly at (512) 974-6717, or via e-mail at [Liana.Kallivoka@austintexas.gov](mailto:Liana.Kallivoka@austintexas.gov).

cc: Chris Shorter, Assistant City Manager

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## Appendix A: Excerpt of Council Resolution 20160512-016

### **BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF AUSTIN:**

The City Council establishes the goal of zero wildland fire related fatalities, promote the development of wildland fire defensible strategies, and support incorporation of these strategies within the City's existing regulatory framework to ensure communities and ecosystems are resilient to extreme fire behavior.

### **BE IT FURTHER RESOLVED**

Direct the City Manager, to evaluate the Wildland Urban Interface Code and explore its applicability as a potential mechanism for protecting life, property, and natural resources from the catastrophic effects of wildfire. Report back to Council within 90 days a plan and timeline for Wildland Urban Interface Code adoption. Also, include wildland urban interface risk reduction as a high priority within CodeNEXT and Imagine Austin ongoing project planning.

### **BE IT FURTHER RESOLVED**

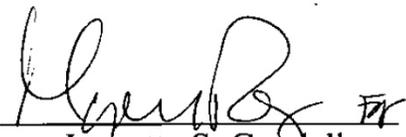
The City Manager is directed to ensure that all high risk wildfire urban interface (WUI) areas within the City of Austin be assessed for the need for Local Community Wildfire Protection Plans (CWPP). Where the need of a Local a CWPP is established, the City Manager is directed to plan and implement these CWPP's. The Local CWPP's will include a fuel mitigation plan for fuels both inside and outside the Home Ignition Zone (HIZ), an emergency wildfire urban interface (WUI) response pre-plan, and a citizen emergency WUI evacuation plan. The City Manager is directed to ensure city departments participate in implementing the recommendations in the City of Austin CWPP, and support implementing local level CWPP.

**BE IT FURTHER RESOLVED**

Direct the City Manager to provide a progress report every six months to the Public Safety Committee for the following important components of a comprehensive WUI risk reduction plan:

- Number of local CWPP's **completed and implemented** in high risk wildfire urban interface areas.
- Number of Local CWPP's **started** in high risk wildfire urban interface areas **but not completed**. Show percent of progress toward completion for each major plan component.
- Percent of high risk wildfire urban interface areas in which **identification of potential local CWPP planning areas is still ongoing**.
- Number of public presentations and home assessments provided.
- For high risk wildfire urban interface areas, provide the number of fuel mitigation activities, location of activities (identify local CWPP where applicable), type of fuel mitigation activities (mechanical or prescribed fire) and size of areas mitigated.
- Number of wildfire training contact hours by City Employees including AFD firefighters and number of employees receiving training. Break down by classroom hours, hands-on training hours conducted.

**ADOPTED:** May 12, 2016

**ATTEST:**   
Jannette S. Goodall  
City Clerk

## Appendix B: Recommendations Included in Wildfire Division Guiding Documents

Community Wildfire Protection Plan (CWPP) – 2014	
Report Index	Recommendations for Action
6.2.1	Formalize JWTF (Joint Wildfire Task Force) into a permanent coalition
6.2.2	Outreach and public education
6.2.3	Promotion of local-level Community Wildfire Protection Plans (CWPP) development
6.2.4	Facilitate public access to risk assessment database
6.2.5	Promote property protection
6.2.6*	Develop a coordinated fuel-reduction plan
6.2.7*	Model and test innovative mitigations strategies
6.2.8*	Grow wildland firefighting capabilities in step with the expanding WUI
NOTE: * denotes that these recommendations appear to be numbered incorrectly in the original CWPP report.	

Community Planning Assistance for Wildfire: Recommendations for Austin, TX (CPAW) – 2016	
Report Index	Recommendations for Action
2.1	Define the Wildland-Urban Interface (WUI)
2.2	Develop a Spatial Risk Assessment that Clearly Delineates Risk Levels
2.3	Assess and communicate the economic and social risks of wildfire
3.1	Align Austin's Environmental Policies with Wildland Fire Management Objectives
3.2	Use Wildfire Risk Information to Inform Austin's Plans
4.1	Adopt a WUI Code
4.2	Revise Land Development regulations to address wildfire risk reduction

# Appendix C: Implementation Guide for the National Cohesive Wildland Fire Management Strategy

## IMPLEMENTATION

### ***Restore and Maintain Landscapes***

*Landscapes across all jurisdictions are resilient to fire-related disturbances in accordance with management objectives. Forest and rangeland management programs are strengthened to accomplish risk reduction.*

- **Seek means to assist private landowners with managing fuels.**
- **Promote prescribed fire certification and training** to provide safe use of fire.
- **Promote landscape scale fuels management activities** that address creation and maintenance of resilient landscapes.
- **Include fuels reduction and fire risk management activities** into existing and future land management programs.
- **Promote cost-effective active forest and rangeland management.**

### ***Fire Adapted Communities***

*Human populations and infrastructure can withstand a wildfire without loss of life and property. Ignitions caused by humans are reduced and lower threats to communities.*

- **Adopt and implement planning and zoning measures** to reduce risk to communities from wildfire.
- **Align public investments in fuels treatments to demonstrable risk reduction activities by communities and landowners.**
- **Utilize fuels management programs to address protection of communities and their values.**
- **Encourage communities and landowners to actively manage land for fuels reduction.**
- **Reduce human caused ignitions.**
- **Engage non-traditional partners, such as the insurance industry and non-governmental organizations,** in efforts to promote fire-adapted communities.
- **Examine and develop solutions to better utilize grant programs** that address community and homeowner fire mitigation efforts and activities for risk reduction.

### ***Wildfire Response***

*All jurisdictions participate in making and implementing safe, effective, efficient, risk-based wildfire management decisions.*

- **Develop and implement standards and protocols** that strengthen national mobilization capabilities.
- **Invest in the wildland fire firefighting workforce at all levels** (federal, state, tribal, territorial, and local) to meet the increasing complexities and demands of firefighting in the wildland urban interface.

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## Scope

The audit scope included calendar year 2016 through 2018. Additionally, audit staff reviewed on-going updates to wildfire processes through mid-October 2019. We did not look at firefighter response to wildfire events.

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## Methodology

To complete this audit, we performed the following steps:

- interviewed Austin Fire Department management and Wildfire Division staff;
- interviewed relevant staff in Austin Water (Wildland Division), Parks and Recreation, Austin Energy, Watershed Protection, and Austin Resource Recovery related to wildfire efforts in their respective departments;
- interviewed staff from Travis County related to wildfire efforts;
- reviewed the Austin-Travis County Community Wildfire Protection Plan, Community Planning Assistance for Wildfire: Recommendations for Austin, TX, City of Austin Hazard Mitigation Plan;
- reviewed State law related to municipal codes and building materials;
- reviewed the National Wildfire Coordinating Group's National Cohesive Wildland Fire Management Strategy;
- reviewed the labor agreement approved on September 28, 2017 between the City of Austin and the Austin Firefighters Association;
- toured the Austin Fire Department's Wildfire Division facilities and observed specialized wildfire equipment and resources;
- toured Austin Water's Wildland Division facilities and a Water Quality Protection Lands property to observe wildfire mitigation efforts;
- analyzed locations where Austin Fire Department and Austin Water performed wildfire mitigation activities;
- analyzed the Austin Resource Recovery service area for brush pick up services;
- compared locations of City properties with wildfire risk data;
- reviewed Austin Fire Department call data from January 1, 2016 through March 31, 2019;
- evaluated IT-related risks associated with dispatch and GIS data;
- evaluated fraud-related risks associated with wildfire certifications; and
- evaluated internal controls in multiple departments related to the City's efforts to mitigate wildfire risk.

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## Audit Standards

We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

The Office of the City Auditor was created by the Austin City Charter as an independent office reporting to City Council to help establish accountability and improve City services. We conduct performance audits to review aspects of a City service or program and provide recommendations for improvement.

#### **Audit Team**

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Tyler Myers, Auditor-in-Charge  
Anna Morris  
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#### **City Auditor**

Corrie Stokes

#### **Deputy City Auditor**

Jason Hadavi

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